REMARKS

Applicants amend claims 1, 3, 6, 16, cancel claims 5 and 17 without prejudice, and add new claim 20. As discussed in more detail below, support for the amendments and the new claim can be found in the specification (e.g., on pages 4, 23 and 24). Thus, no new matter is added. The various grounds of rejection are discussed below.

Applicants thank the Examiner for the comments made on pages 8-9 of the Office Action, in response to Applicants' previously presented arguments. The amendments presented herewith are intended to address the Examiner's remaining concerns. Specifically, the nature of an "active query," as that term is used in the claims, has been clarified. Reconsideration and allowance are requested for the reasons detailed below.

Rejections Under 35 USC 102

The Office Action rejects claim 1 as being anticipated by U.S. Patent No. 6,405,250 of Lin.

Claim 1 recites a network system that comprises an internal configuration database process for managing configuration of internal resources within a network device in response to configuration input provided by an external Network Management System (NMS) process, and a plurality of modular processes executing on the network device that communicate with the internal configuration database to access configuration data, wherein the processes use the configuration data to modify execution behavior. The network system further comprises a database maintained by the external NMS for storing a copy of data contained in the internal configuration database. The internal configuration database supports an *active query feature* and the NMS database is configured to establish an *active query* for one or more records within the internal configuration database *such that the internal database sends a notification to the NMS database upon occurrence of a change in any of the records so as* to synchronize the NMS database with the internal database. Support for the amendment to claim 1 can be found, for example, on pages 4 and 23 of the specification.

Lin is generally directed to a system for managing a set of interconnected network elements (NE) that employs a network management system (NMS) for monitoring the network elements. Lin indicates that each NE periodically communicates with NMS to report status data updates, where the timing and the content of the updates are determined based on a policy negotiated between the NMS and each NE.

The Examiner rejects Applicants argument (presented in response to the previous Office Action) that Lin does not teach an active query feature for sending updates from an NE to the NMS by construing the term "active query" broadly to mean "repeatedly requesting information from the network element." The term "active query" as used generally in the art and specifically in this application, however, refers to generating updates upon occurrence of changes in one or more records of a database. To further elucidate this point, claim 1 is amended to recite that the internal database sends a notification to the NMS database upon occurrence of a change in one or more records.

In other words, synchronizing two databases via an active query feature is distinct from utilizing periodic polling to achieve the synchronization. Applicants explain that in the context of synchronizing an external NMS configuration database with an internal configuration database, such periodic polling, which can occur at predefined intervals, is "unnecessary and wasteful if the configuration has not been changed." *See*, page 20 of the specification. Further, such periodic polling can result in a delay (potentially as long as the time between two successive polls) between occurrence of a change in the internal configuration database and the updating of the external database. The network device may crash during this delay, hence resulting in the loss of the update.

In Lin, an NE can report to the NMS "periodically based on periodic internal timeout events; it could raise alarms when some of its parameters exceed their threshold values, or when the NE has problems communicating with other NE's; or it could respond to polling requests from NMS 120." See Lin, col. 6, lines 19-23. None the these approaches, however, involves informing the NMS of one or more status changes upon their occurrence.

Hence, Lin does not teach or suggest all of the features of the system of claim 1, and their concomitant advantages, such as more efficient synchronization of an external configuration database with a corresponding internal database.

Rejections Under 35 U.S.C. 103

The Office Action rejects claims 3-6, 8, 9, and 11-18 as being obvious over Lin in view of U.S. Patent No. 6,389,464 of Krishnamurthy.

Independent claim 3 recites a communications system that includes a network device having an internal configuration database process for managing configuration of internal resources within the network device. The communications system further comprises a computer system that includes an input mechanism for receiving configuration input data from a network manager, and a Network Management System (NMS) process for responding to the configuration input data and for sending configuration data to the configuration database process within the network device. An NMS database is maintained on the computer system in synchrony with the internal configuration database. The configuration database process within the network device configures internal resources of the network device in response to the configuration data received from the NMS. Further, the configuration database supports an active query feature and the NMS database is configured to establish an *active query* for all records within the configuration database to synchronize the NMS database with the embedded database. Claim 3 further recites that for any change to the configuration data stored by the configuration database, the configuration database sends a notification of the change to the NMS database within the computer system to synchronize the NMS database with the configuration database.

As discussed above, Lin does not teach utilizing an active query feature of one configuration database to keep another configuration database in synchrony therewith – features recited in claim 3. Krishnamurthy does not cure the shortcomings of Lin in this regard. In particular, Krishnamurthy discloses a system for managing devices from multiple vendors by employing a single network manager. The system includes an integrated site server having a plurality of ports for connection to devices to be managed. A user, e.g., a system manager, can

communicate remotely, e.g., via a browser, with the site server to configure the site server to manage a device of interest, e.g., via an SNMP agent residing on the site server. In addition, the managed devices can also be configured to return information relating to selected operating parameters to the site server.

Krishnamurthy does not teach maintaining a configuration database on the site server containing internal configuration of a managed device in synchrony with a corresponding internal database maintained by the managed device by employing an active query feature of the internal database.

Accordingly, claim 3 and claims 4, 6, and 8 – 15, which depend either directly or indirectly on claim 3, are patentable over the combined teachings of the cited references.

Similar arguments apply with equal force to establish that independent claim 16 (amended to incorporate the features of dependent claim 17) is also patentable over the cited art. For example, claim 16 recites, among other steps, establishing an active query for all records within the configuration database for the NMS database – a feature not taught by either Lin or Krishnamurthy.

Accordingly, claim 16 and claim 18, which depends on claim 16, are patentable.

The Office Action rejects claim 10 as being obvious over Lin in view of Krishnamurthy in view of U.S. Patent No. 6,490,624 of Sampson.

Claim 10 depends indirectly on claim 3, and further recites that the standard database protocol comprises a Java Database Connectivity (JDBC) protocol.

As stated above, Lin does not teach utilizing an active query feature of one configuration database to keep another configuration database in synchrony therewith – features recited in claim 3 (and consequently in claim 10), and Krishnamurthy does not cure the shortcomings of Lin in this regard. Similarly, Sampson does not bridge the gap in the teachings of Lin and Krishnamurthy. In particular, Sampson is directed to a system that controls access to

information resources, where a session manager and a topology mechanism enable a user to securely interact with access servers and associated runtime elements using a plurality of sessions that are coordinated and tracked.

Sampson does not teach maintaining a configuration database on the site server containing configuration data of a managed device in synchrony with a corresponding database maintained internally by the managed device by employing an active query feature of the internal database.

Accordingly, claim 10, which depends indirectly on claim 3, is patentable over the combined teachings of the cited references.

New Claim

New claim 20 depends on claim 1, and further recites that at least one of the processes executing on the network device establishes an active query with the internal configuration database to receive a notification therefrom upon occurrence of one or more changes in that database. Support for this claim can be found, for example, on pages 23 and 24 of the specification. Thus, no new matter is added.
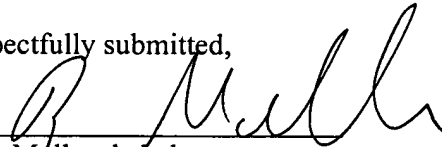
Not only does claim 20 include the patentable features of claim 1, such as maintaining the NMS database in synchrony with the internal configuration database via an active query feature of the internal database, but it also recites the additional feature that at least one of the processes executing on the network device establishes an active query with the internal database to receive notification regarding selected changes therein – a feature not taught by any of the cited references.

Conclusion

In view of the above amendments and remarks, Applicants respectfully request reconsideration and allowance of the application. Applicants invite the Examiner to call the undersigned at (617) 439-2514 if there are any remaining questions.

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Respectfully submitted,

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